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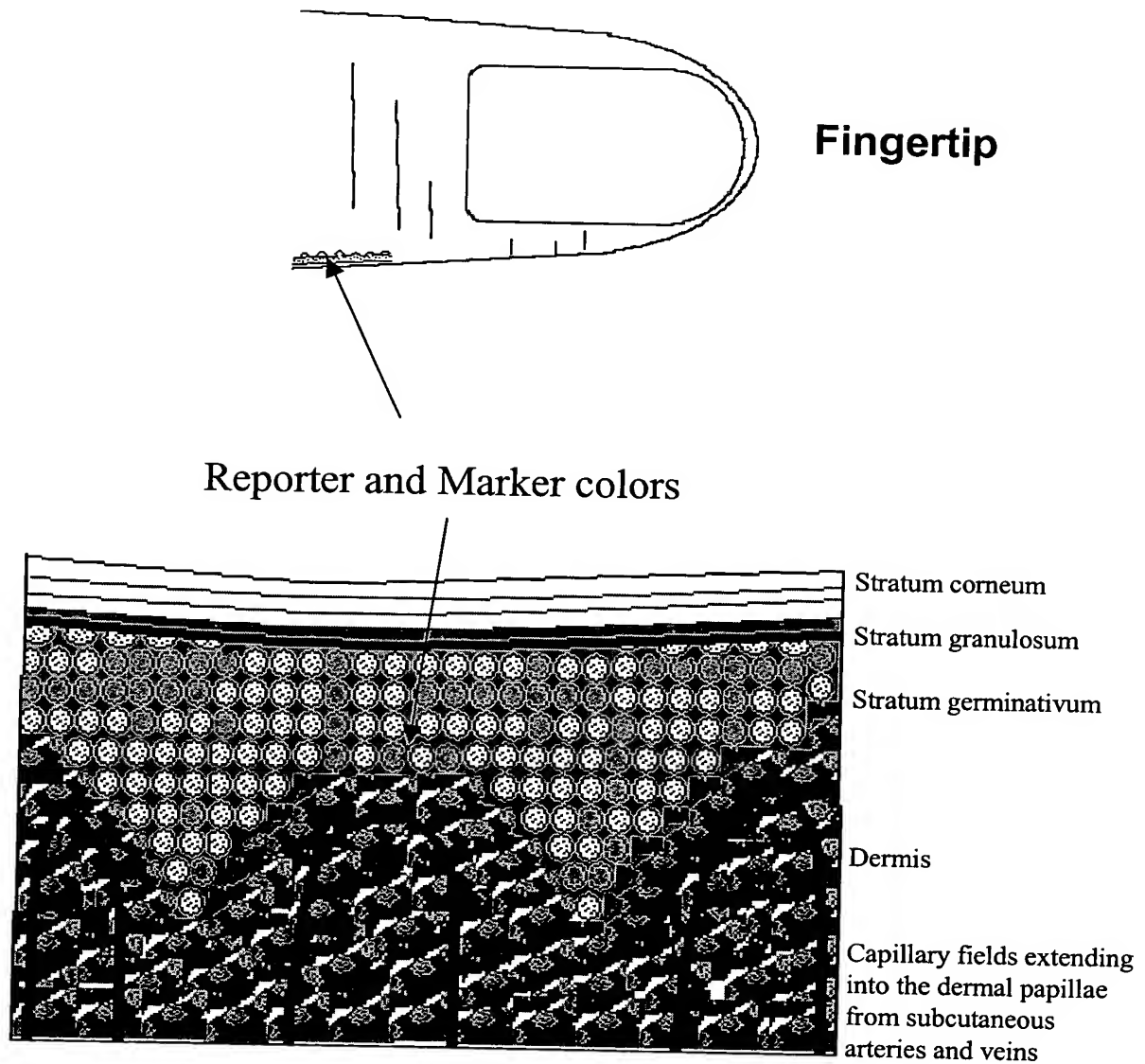
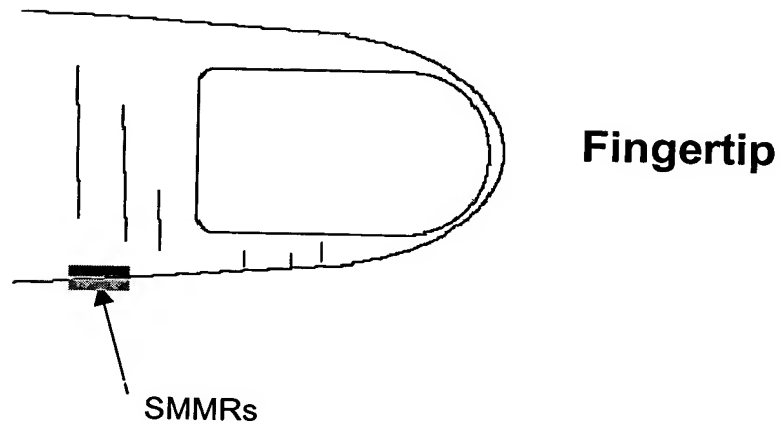


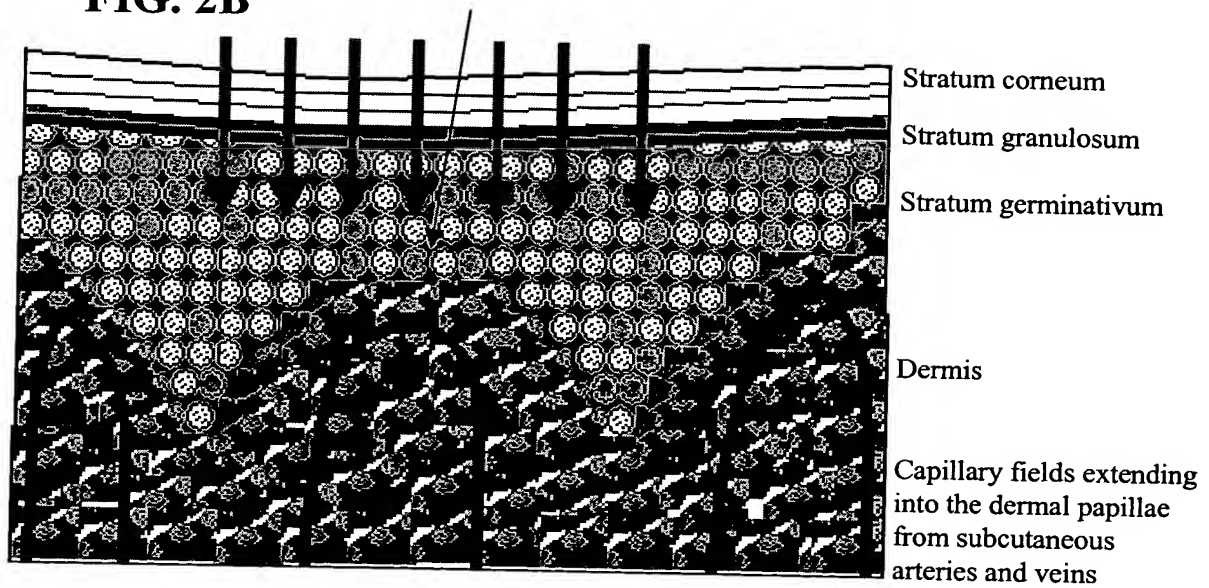
FIG. 1

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**FIG. 2A**



**FIG. 2B**



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FIG. 3A

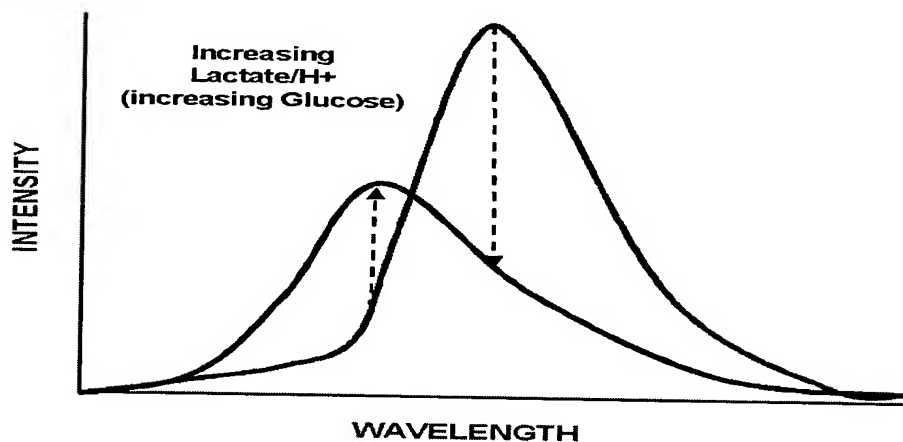
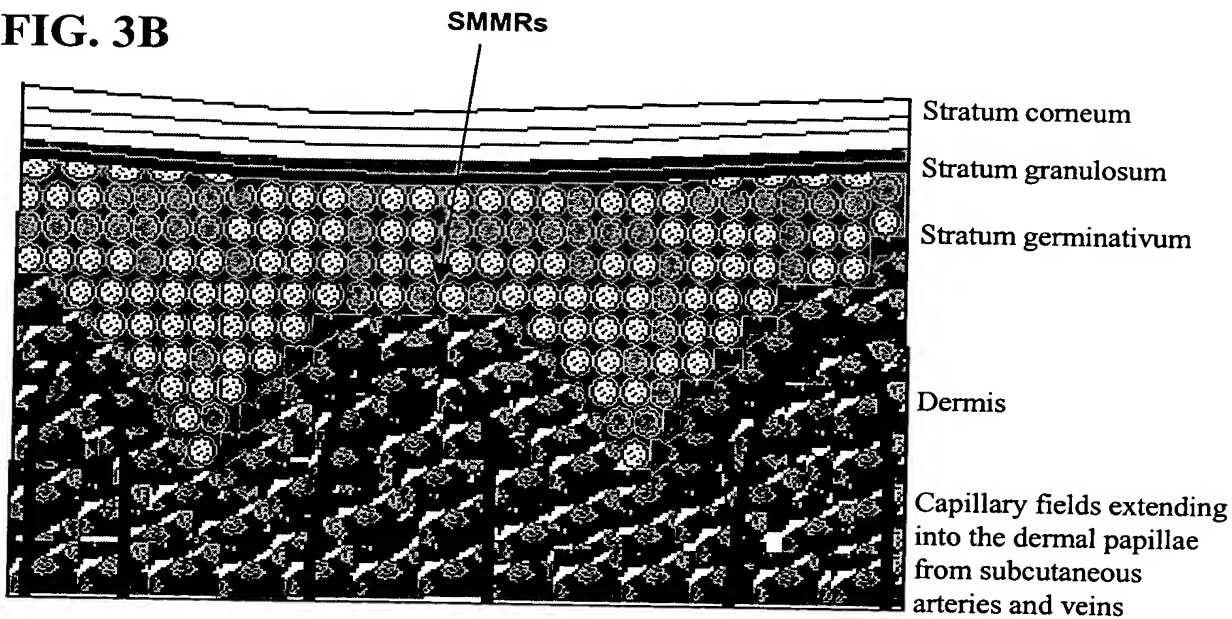


FIG. 3B



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FIG. 4A

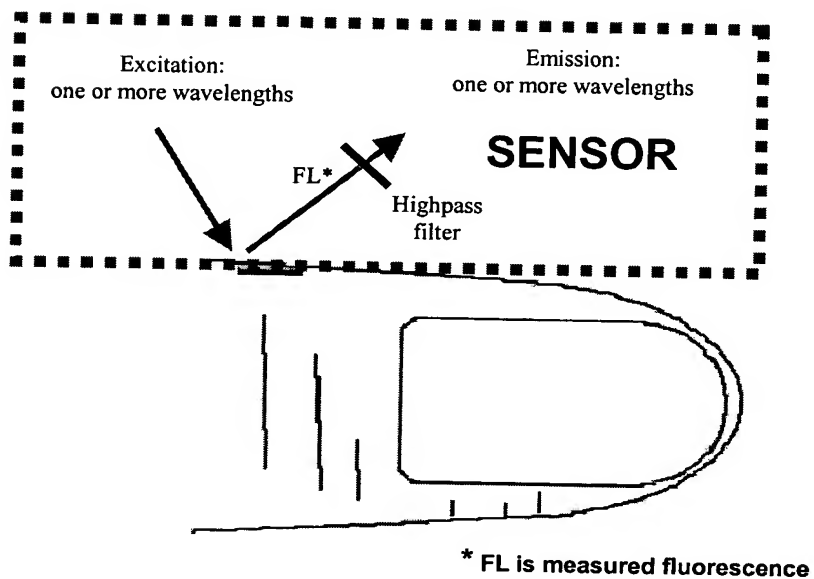
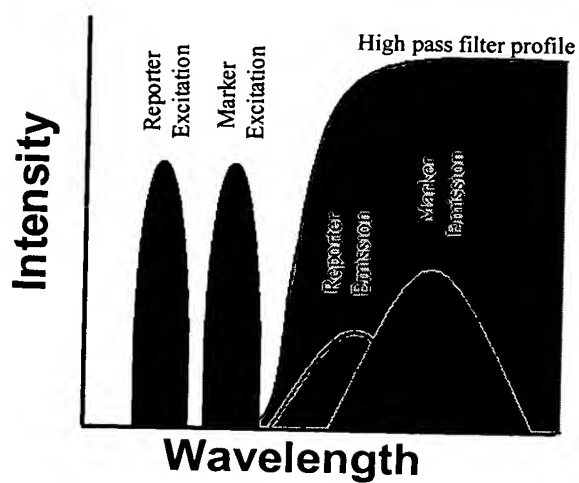


FIG. 4B



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FIG. 5A

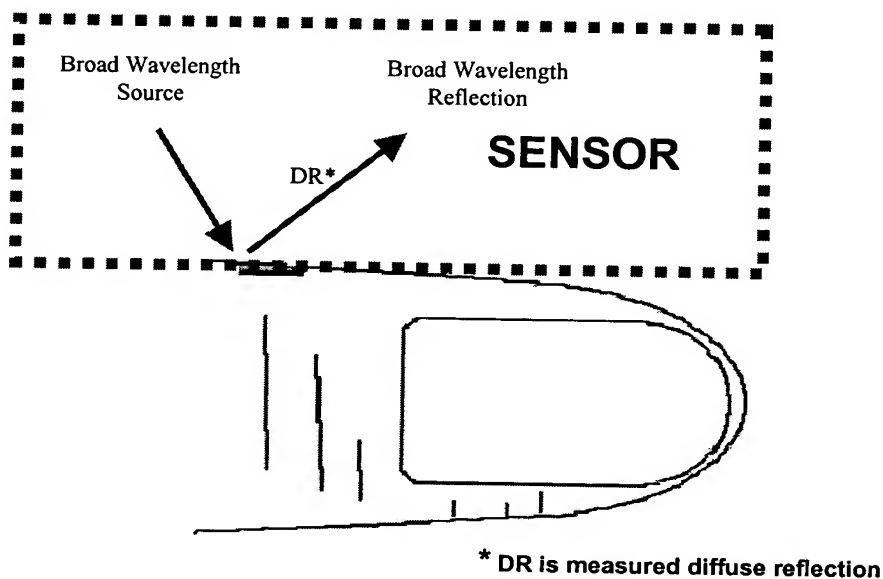
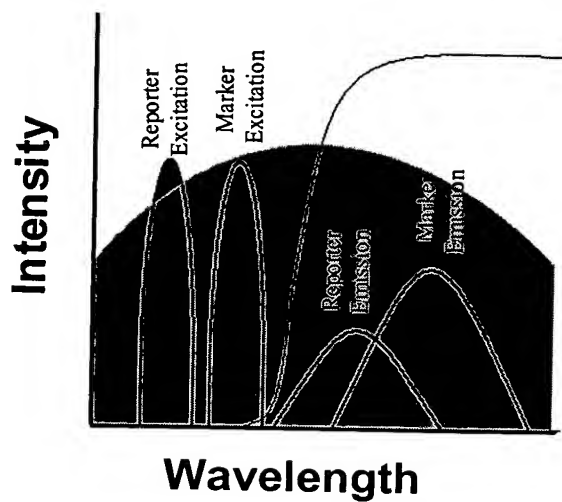


FIG. 5B



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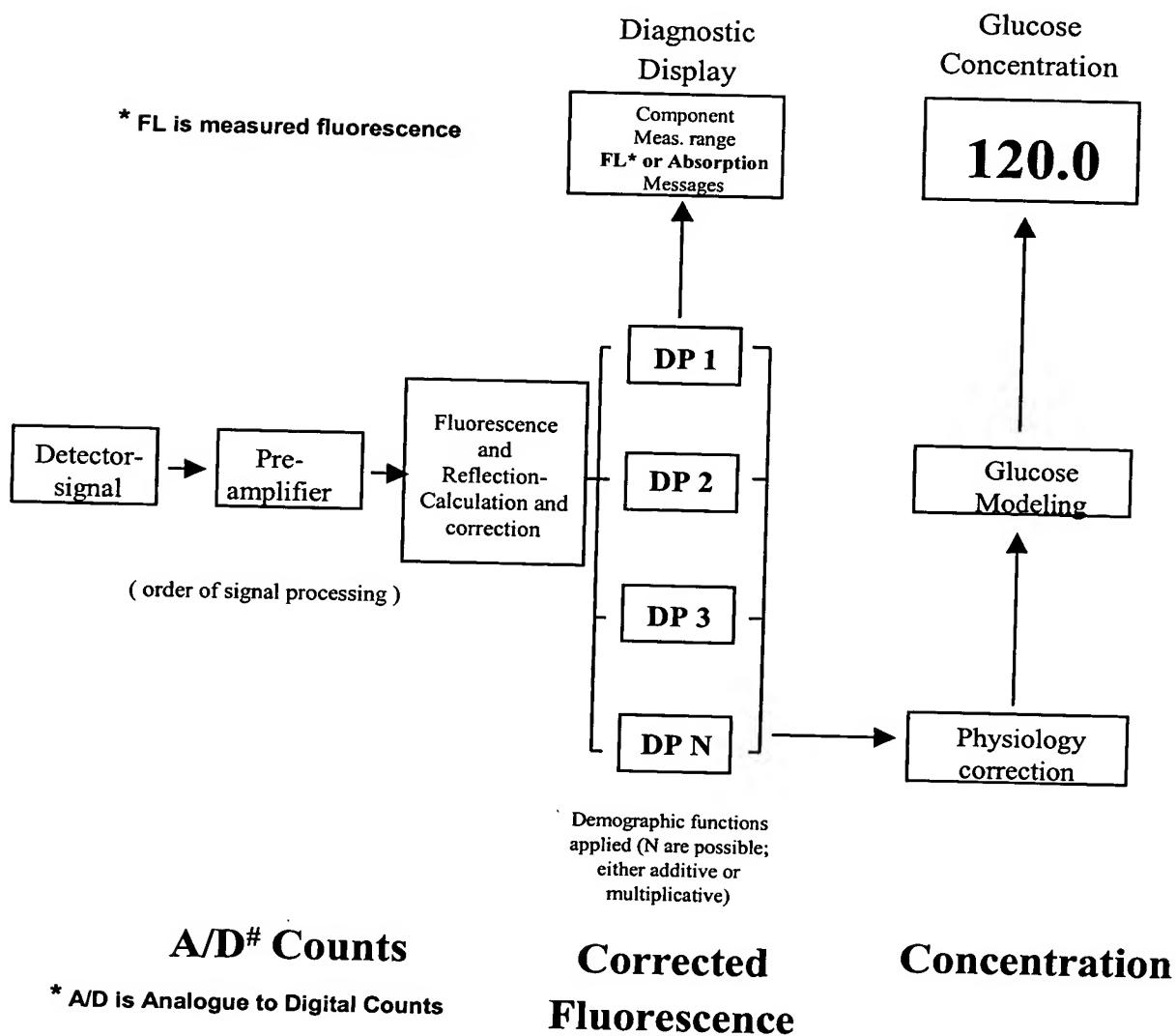


FIG. 6

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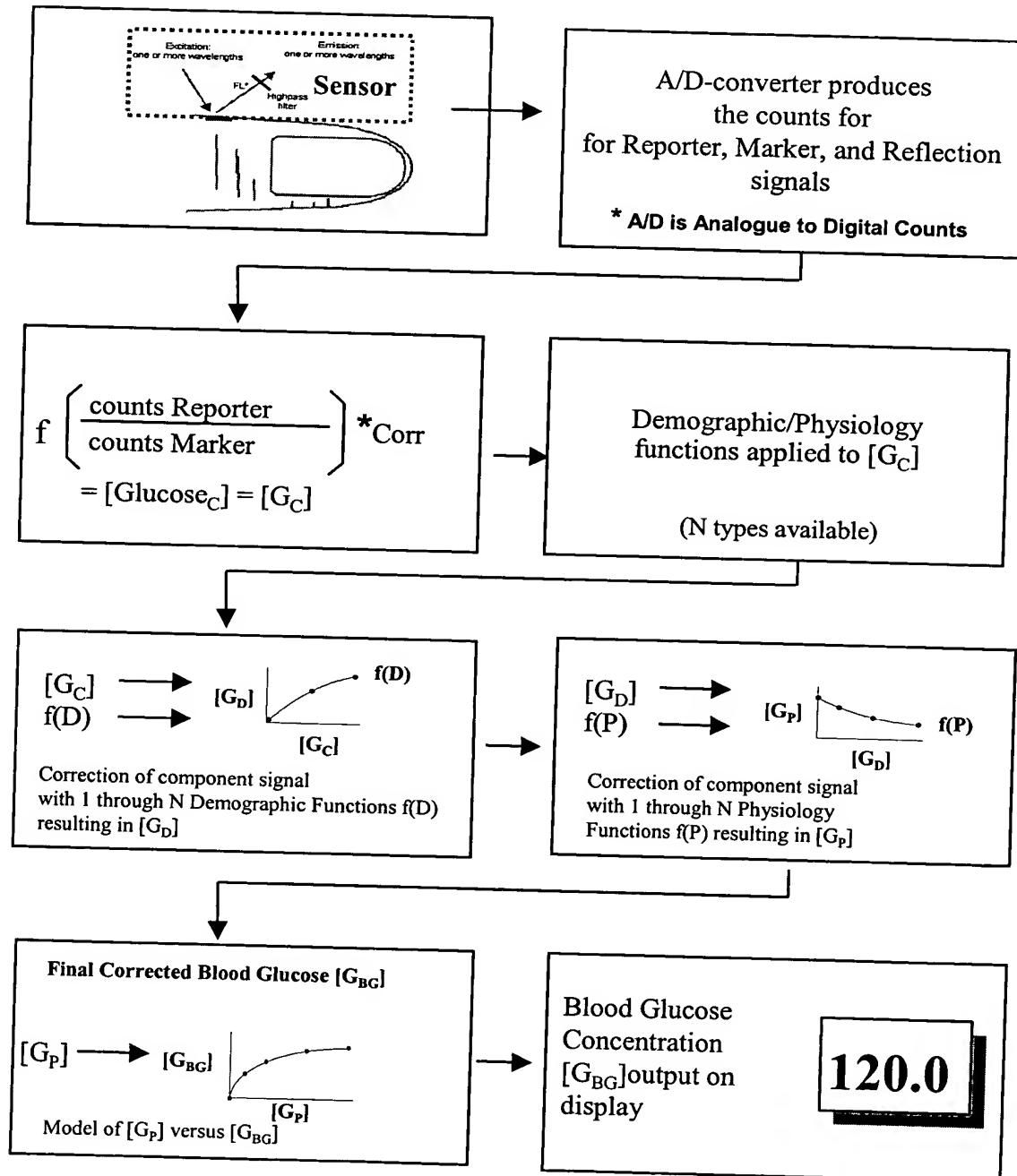


FIG. 7

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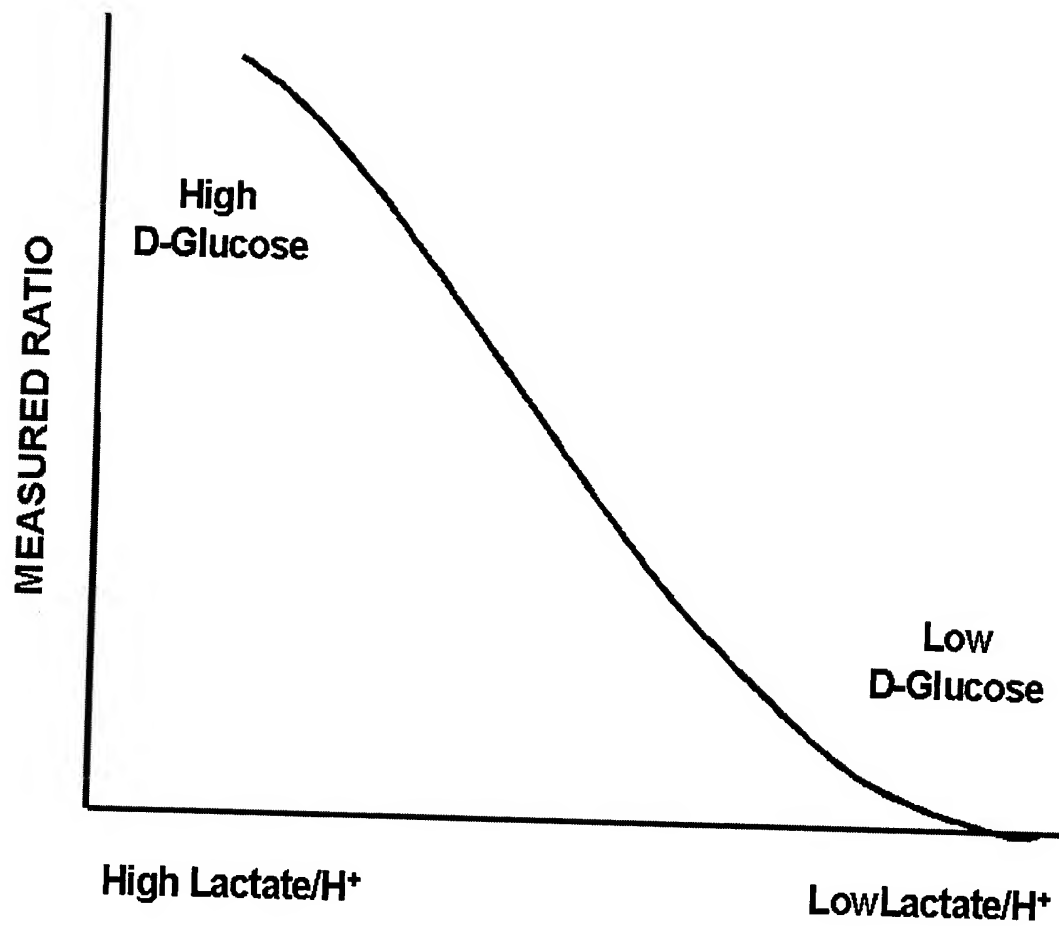


FIG. 8



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FIG. 9A

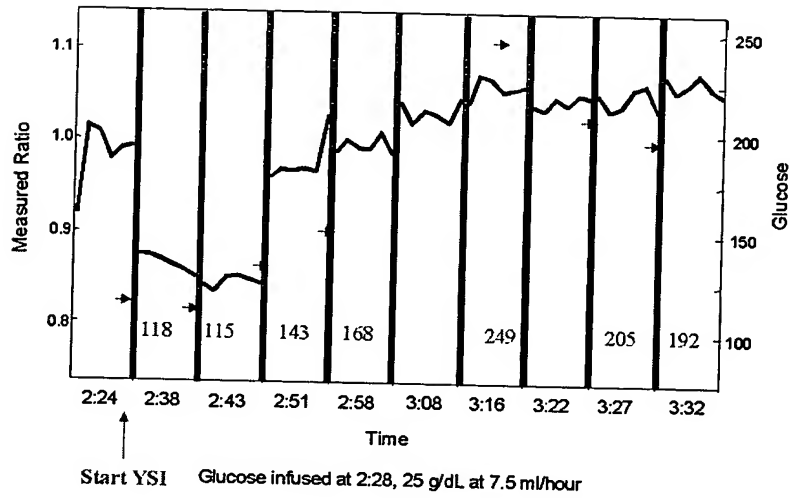
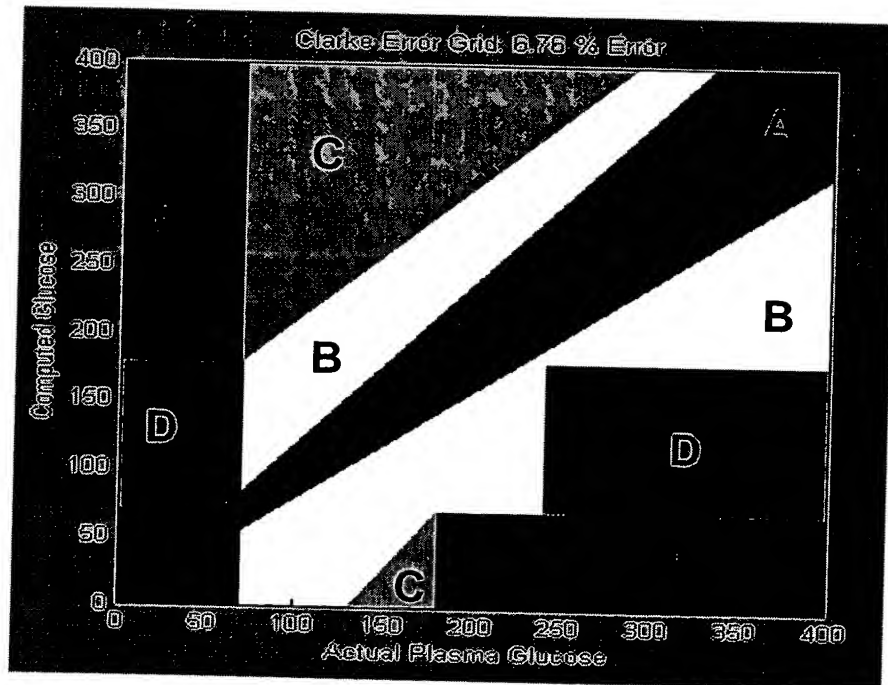
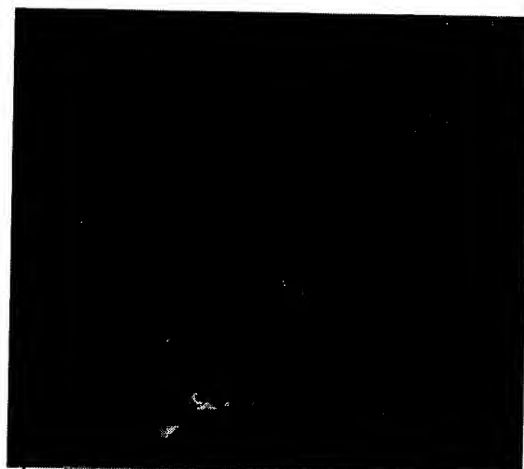


FIG. 9B



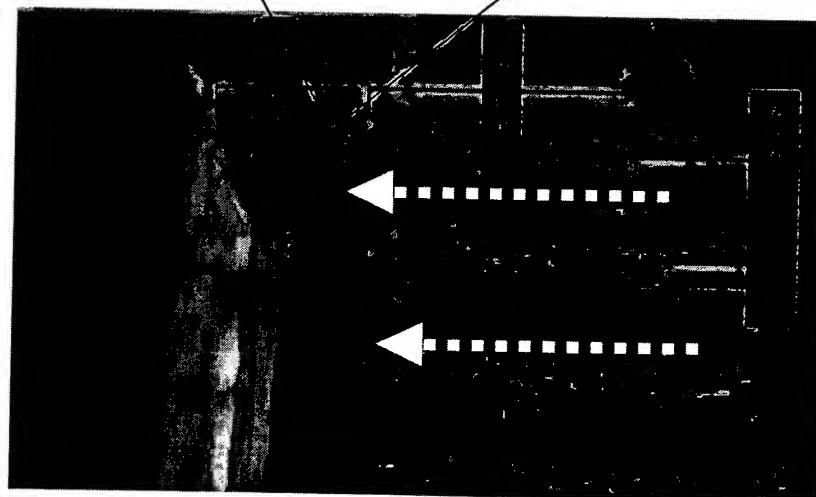
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FIG. 10B



Human keratinocytes

FIG. 10A



Human skin

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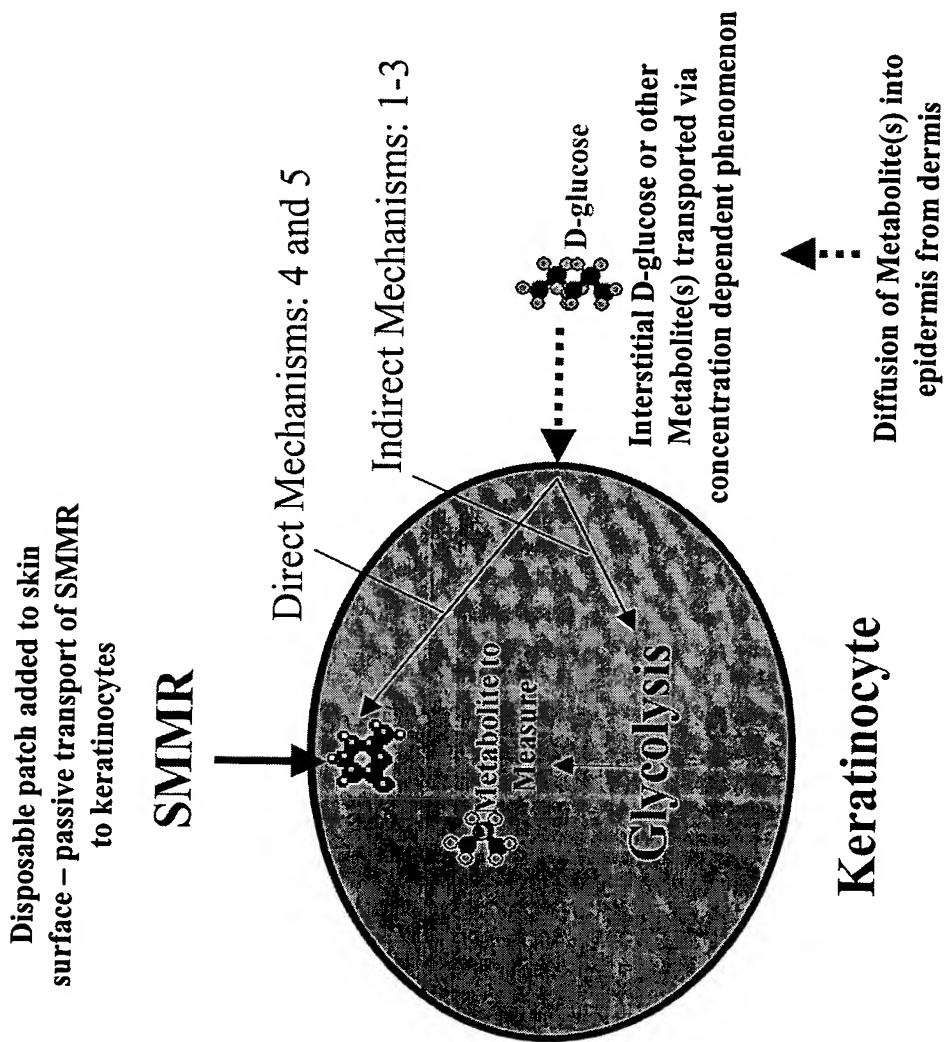


FIG. 11

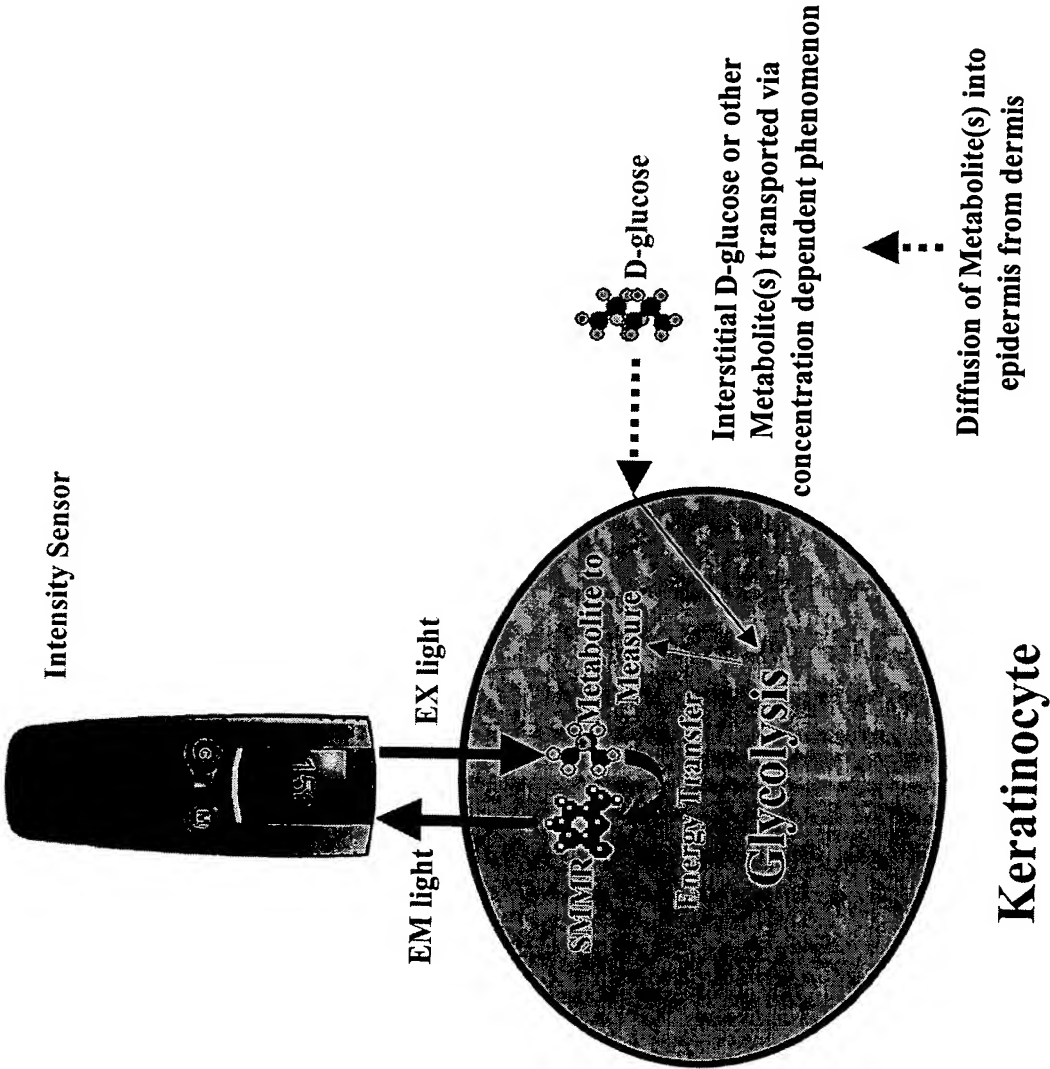


FIG. 12

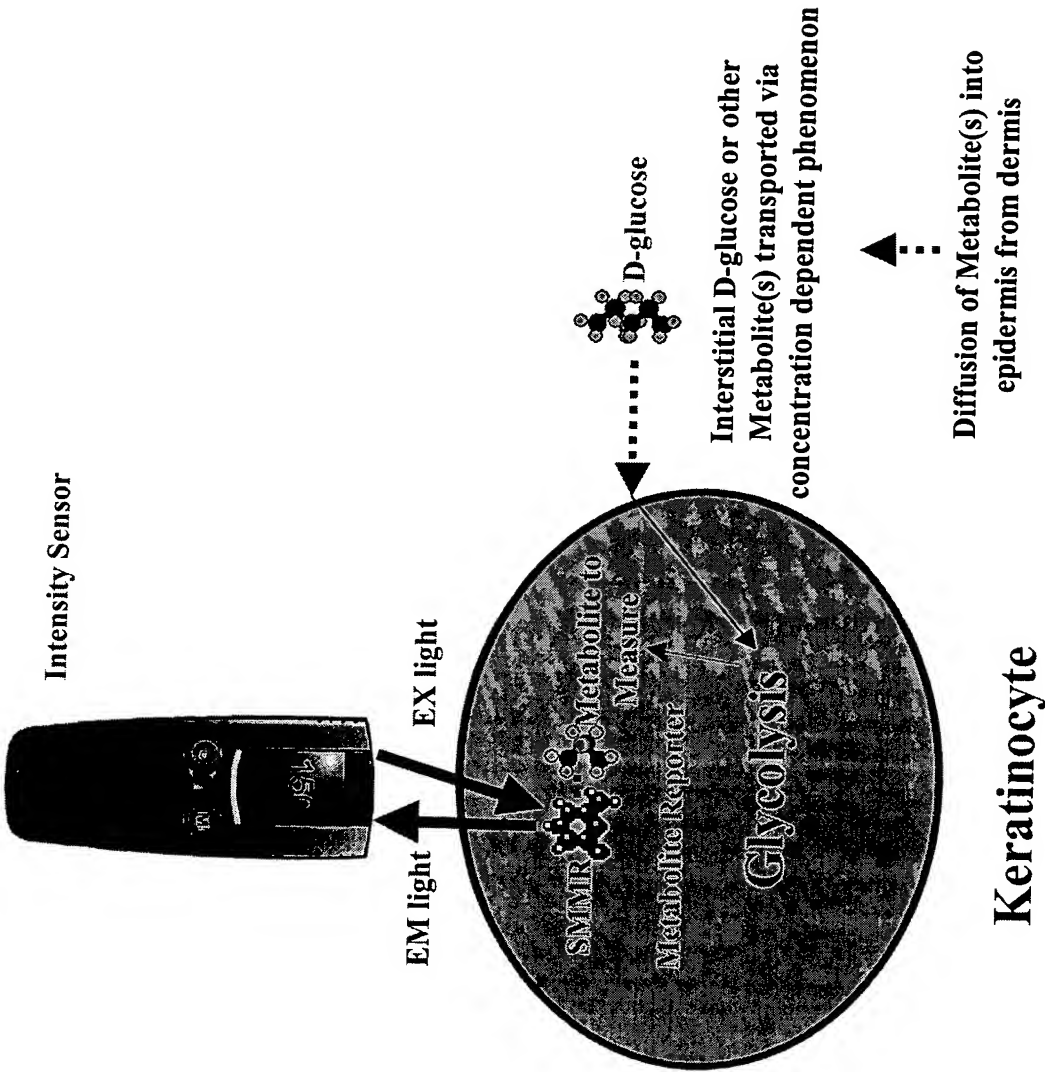


FIG. 13

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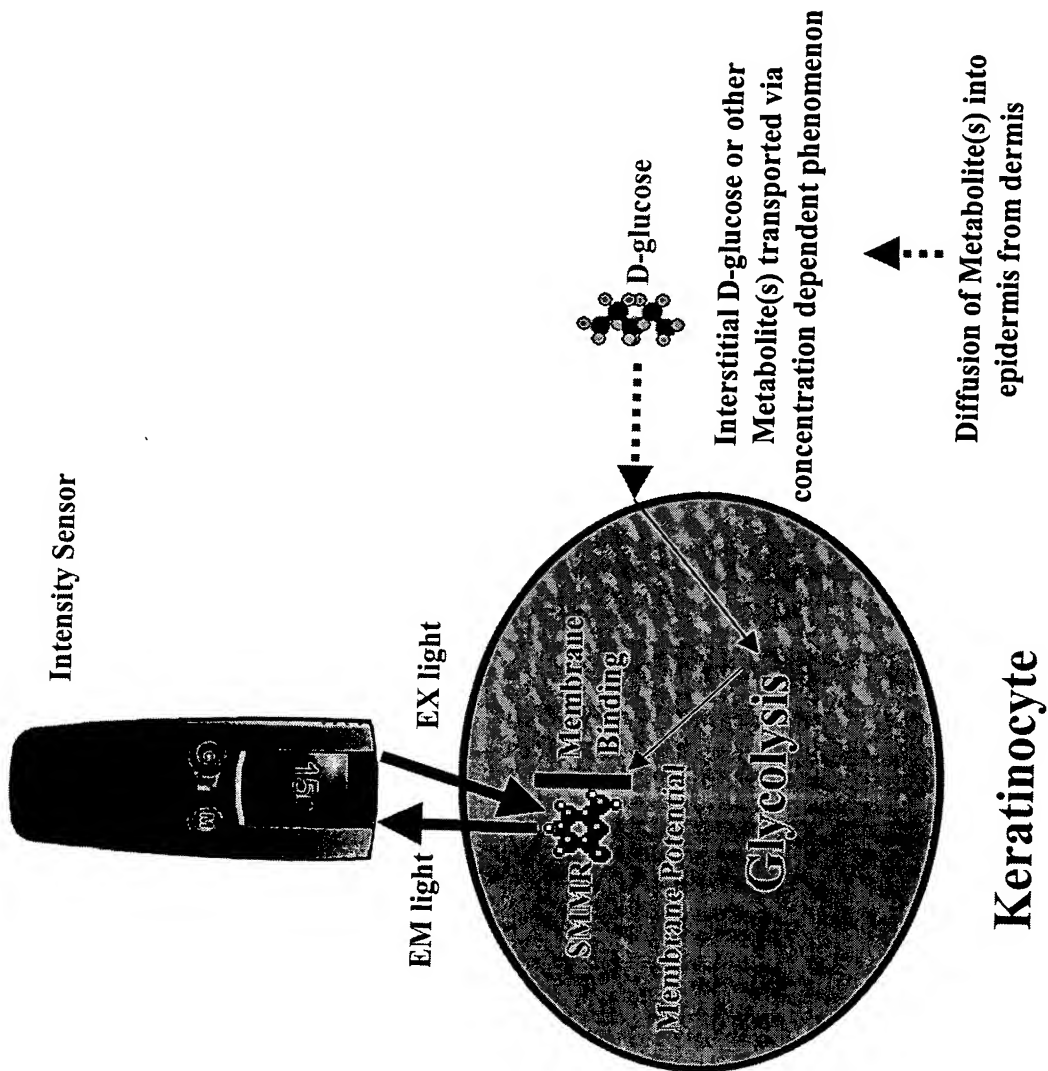


FIG. 14

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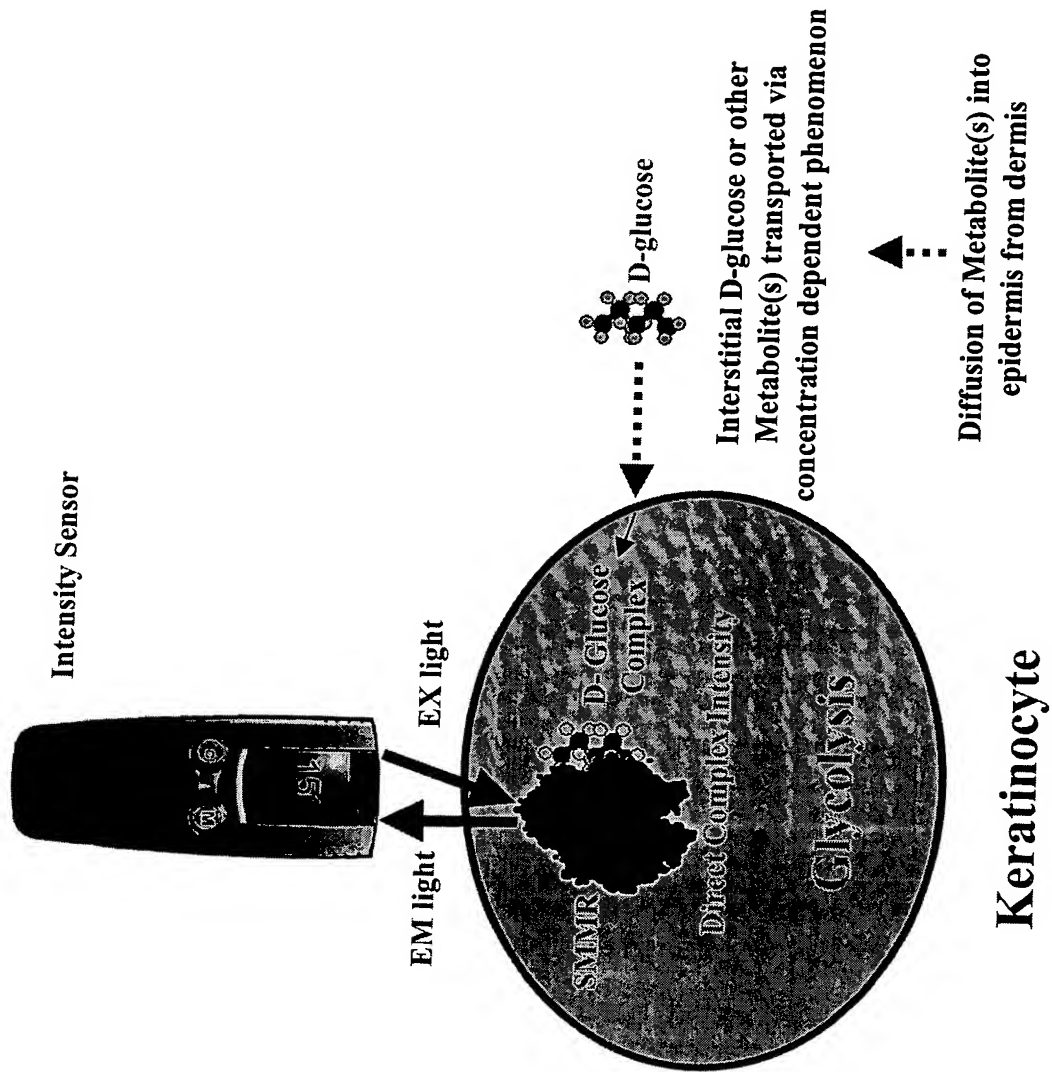


FIG. 15

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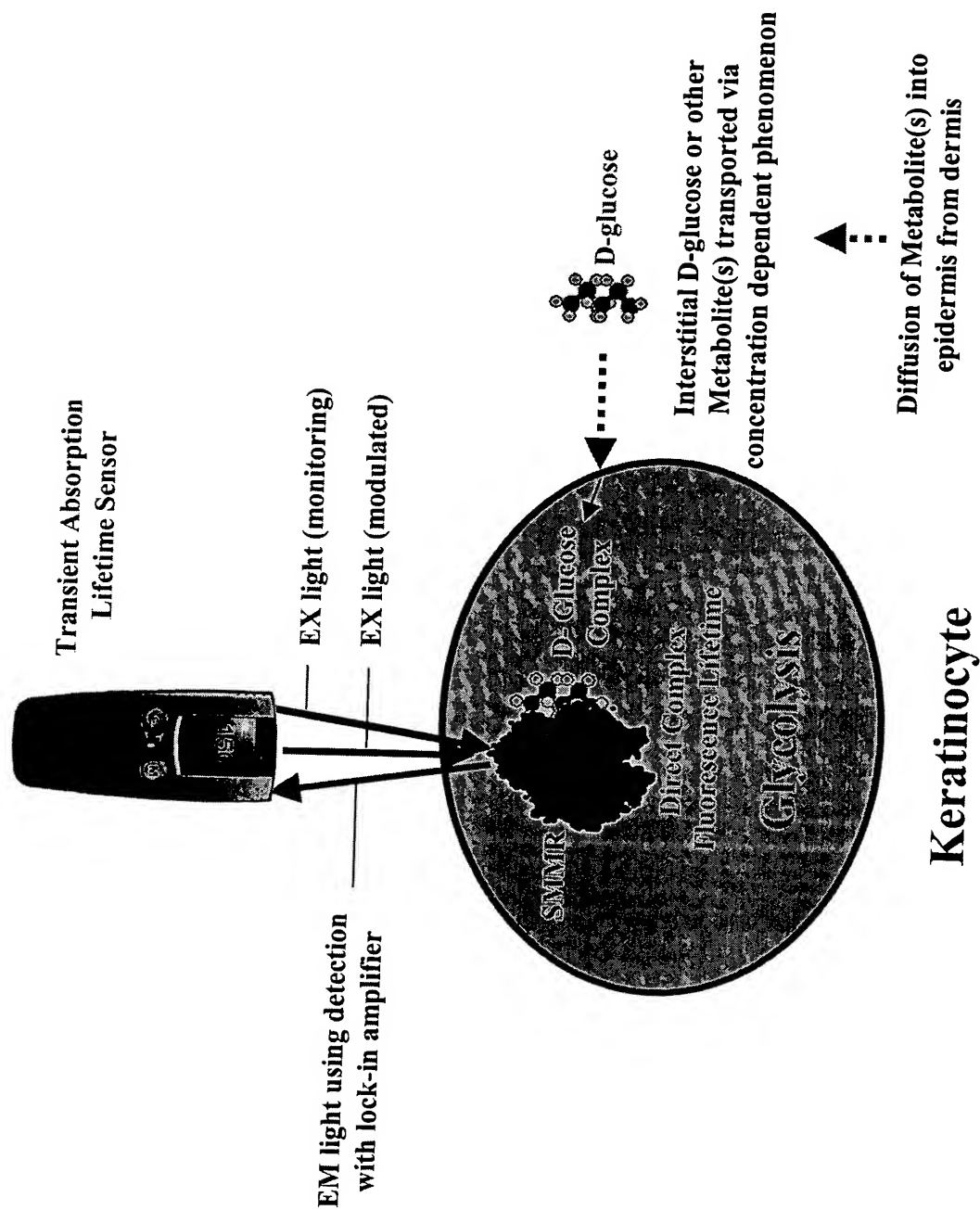


FIG. 16

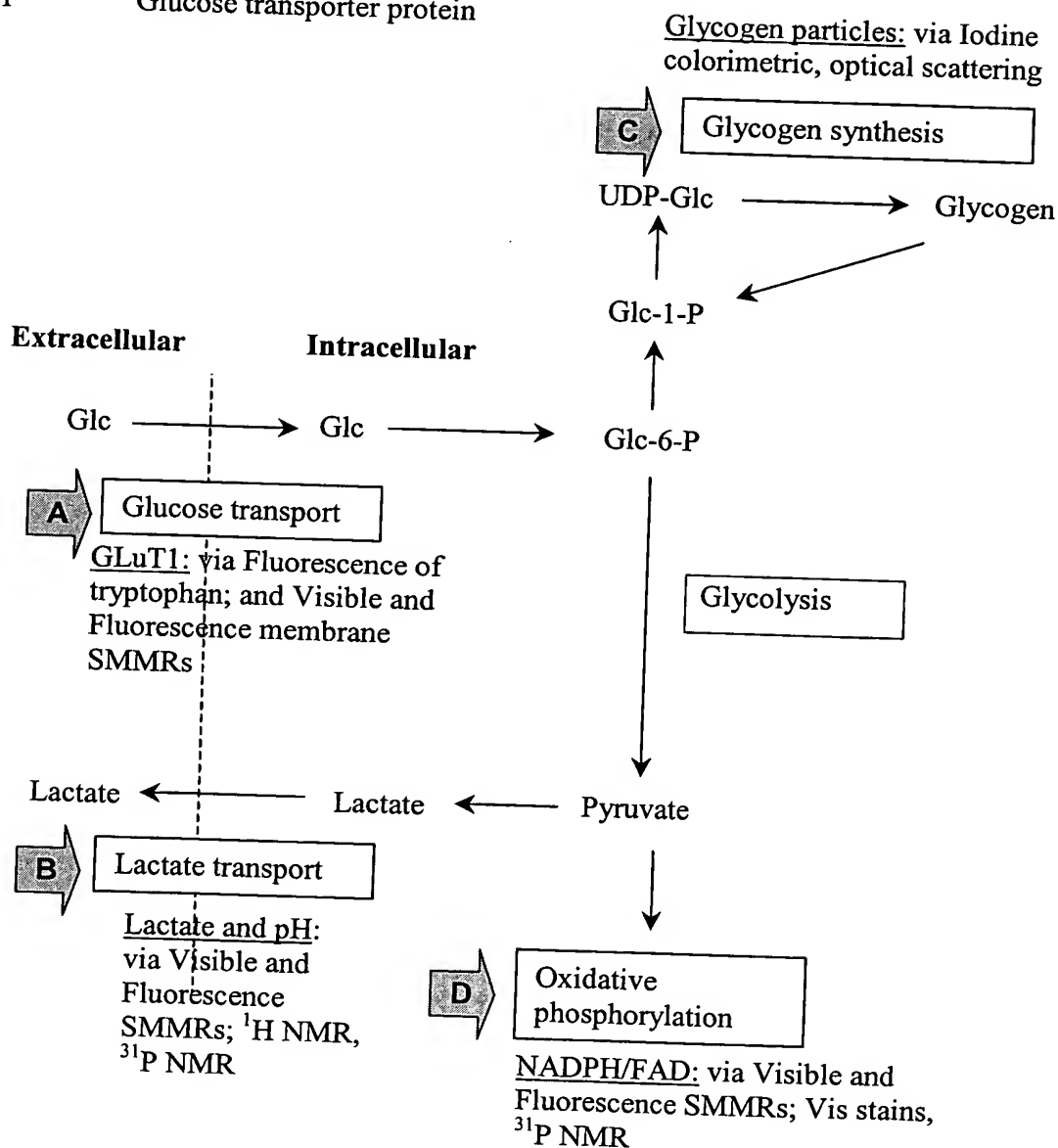


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**FIG. 17A**

Scheme 1

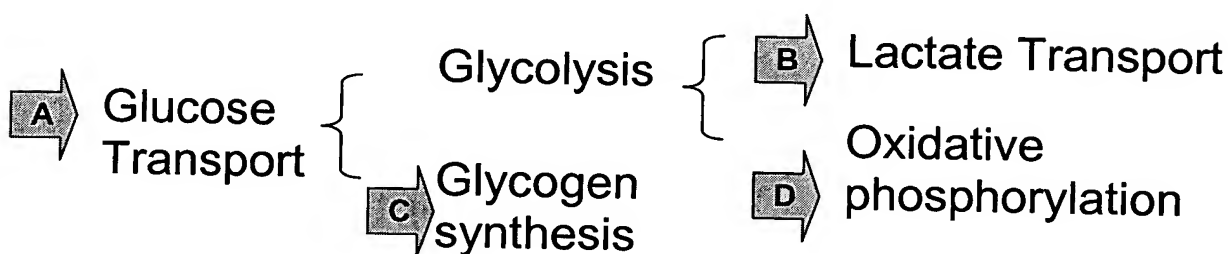
Glc	Intracellular glucose
Pyr	Pyruvate
Glc-6-P	Glucose-6-phosphate
Glc-1-P	Glucose-1-phosphate
UDP-Glc	UDP-glucose
GluT	Glucose transporter protein



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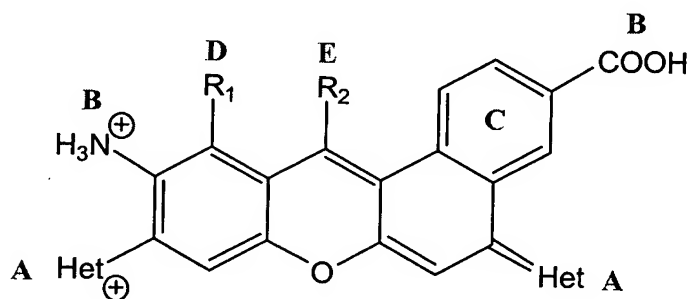
## FIG. 17B

Scheme 2. Overview of metabolic pathways for glucose in epidermis

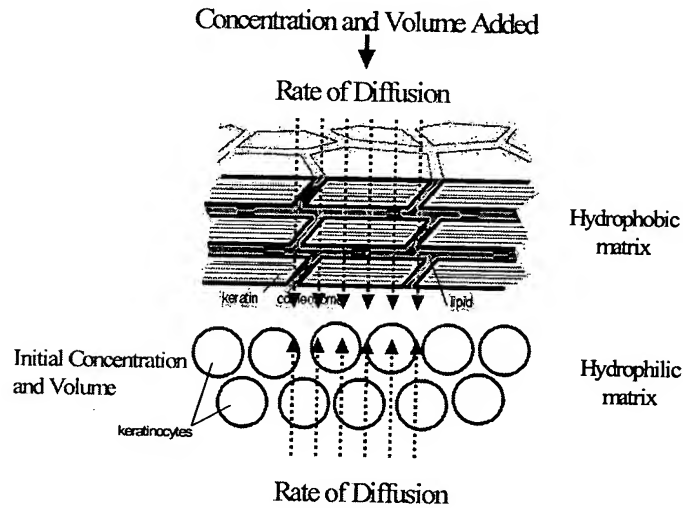


## FIG. 17C

Scheme 3. Structure of generic pH sensitive dye for specific action as a lactate/H<sup>+</sup> SMMR

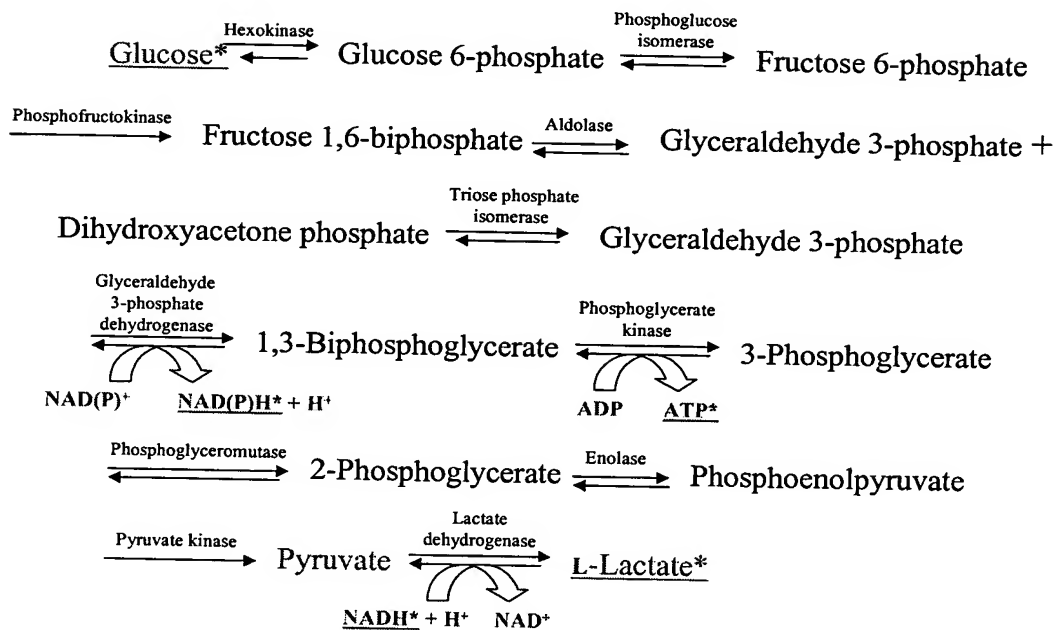


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Scheme 4. *In Vivo* Calibration Issues

FIG. 17D



\*Target Analytes (direct or indirect)

GLUCOSE GLYCOLYSIS

FIG. 18